FUSS & O'NEILL

January 24, 2020

Mr. Randy Kabakoff
HARE Associates
185 Asylum Street
Hartford, Connecticut 06103-3460

Re: Shared Parking Study
Elmwood Plaza, 1128 New Britain Avenue
West Hartford, Connecticut

Dear Mr. Kabakoff:

This letter will serve to document our analysis of existing and proposed parking supply, shared parking, and expected parking demand for the mixed-use development at 1128 New Britain Avenue in West Hartford. This mixed-use space is proposed to share parking between its complementary land uses that generate parking demand during various times of the day and week. As a result, our analysis concludes that a total of 234 parking spaces is sufficient to accommodate the shared parking demand, 27 fewer than the current requirement.

The existing 1128 New Britain Avenue site contains 45,707 square feet of retail, service, restaurant, office, and some vacant space. The proposed modification to the development involves the activation of 1,701 square feet currently vacant space on the west side of the development as well as the opening of Zaytoon's restaurant on the eastern portion of the development in the former space occupied by Chalkboard, an education supply store.

In accordance with the Special Development District (SDD) plan approved by Town Council in 2012, a total of 261 parking spaces are currently required on site.

Existing Conditions

Today, the mixed-use development consists of 28,162 square feet of retail and service space, 6,977 square feet of casual restaurant space, 7,368 square feet of office space, and 1,701 square feet of vacant space. An additional existing 1,499 square feet of garage and mechanical space will also be counted toward the retail and service total for simplicity.

General parking regulations for the Town of West Hartford are found in Section 177-32 of the Town Zoning Regulations. As specified in this section, retail and service land uses require one parking space per 150 square feet of gross floor area, restaurants require one parking space per three seats within the restaurant, and office space requires one parking space per 250 square feet of

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gross floor area. Based on this information, the number of parking spaces required by the Town for the current land uses would be 286, as shown in Table 1 below.

Table 1: Existing Elmwood Plaza Parking Required by Zoning Regulations

Land Uses	Size	Unit	Rate	Total Required Spaces
Retail & Service Space	29,661	SF	1 spaces / 150 SF	198
Restaurant (Casual Dining)	172	Seats	1 space / 3 seats	58
Office Space	7,368	SF	1 space / 250 SF	30
			Total	286

Proposed Conditions

HARE Associates proposes to activate 1,701 square feet of currently vacant space, which will be converted retail and service space, and reassign 4,109 square feet of existing retail and service space to a casual restaurant space proposed to contain 80 seats. Based on the change in land use and the aforementioned parking rates, the parking requirement for this development will increase by ten parking spaces, totaling 296 parking spaces, as shown in Table 2 below.

Table 2: Proposed Elmwood Plaza Parking Required by Zoning Regulations

Land Uses	Size	Unit	Rate	Total Required Spaces
Retail & Service Space	27,253	SF	1 spaces / 150 SF	182
Restaurant (Casual Dining)	252	Seats	1 space / 3 seats	84
Office Space	7,368	SF	1 space / 250 SF	30
			Total	296

Shared Parking

A fundamental tenet of urban mixed-use development is that the included uses contribute to possible activity around the clock. This activity is typically achieved by putting a critical mass of office uses in close proximity to a variety of commercial, recreational, or other productive uses. Thus, daily life in a place is cyclical, with different hours of each day producing a certain dynamic concentration of activity from each use. This observation lies at the heart of modern transportation system analysis, including that pertaining to parking supply and demand.

While the West Hartford zoning requirements would indicate that 296 parking spaces would be required to accommodate the conversion to restaurant space for Zaytoon's and the activation of the vacant space within the building, the theory of shared parking indicates that not all of the spaces will be demanded at the same time. For a land use with a combination of office and retail/restaurant space, it is expected that some spaces may be shared between the uses.

Table 3 totals the results of the shared parking demand for the proposed land uses on a typical Saturday in December. Parking occupancy rates were based on the City of Hartford Zoning Regulation Figure 7.2-C – Parking Time Periods per Use. The time rates were applied based on the reported busiest times of use for the site, and reported in Table 3 below.

Table 3 – Shared Parking Calculations for Elmwood Plaza

Use	Retail & Personal Service Space		Restaurant (Casual Dining) Space		Office Space		Shared Demand
Size	27,253 square feet		11,086 square feet 252 seats		7,368 square feet		
Rate	1 space / 150 sf		1 space per 3 seats		1 space / 250 sf		
Spaces	182		84		30		296
Time	%	Space	%	Space	%	Space	Subtotal
12:00AM - 7:00AM	5%	9	70%	59	5%	2	69
7:00AM - 6:00PM	100%	182	60%	50	5%	2	234
6:00PM - 12:00AM	60%	109	100%	84	5%	2	195
							234

As illustrated in Table 3 above, the combined shared parking demand for the proposed uses on the 1128 New Britain Avenue site is 234 spaces. Peak demand is expected to occur in the midday timeframe when the retail uses are experiencing peak demand and the restaurants are also open. The peak shared demand of 234 spaces is significantly lower than the combined parking requirements per Zoning Regulations for each individual land use which would yield the need for 296 spaces.

Parking Occupancy Count

In order to demonstrate the shared parking that exists on this site, parking utilization counts were taken on Saturday, December 7, 2019. The intention of the selection of this date was to capture the most intense parking use, on a Saturday in December.

These counts provided the basis for hourly demand for the retail, service, restaurant and office land uses on this site, which can then be applied to the base parking supply for each proposed land use. The Elmwood Plaza parking lot has a capacity of 261 parking spaces; however the lot was never more than two thirds full, as shown in Table 4 below.

Table 4 – Observed Parking Demand

Time	Elmwood Plaza		
	Occupied Spaces	Vacant Spaces	Percent Occupied
12:00 PM	118	143	45%
2:00 PM	155	106	60%
4:00 PM	107	154	41%
6:00 PM	135	126	52%
8:00 PM	131	130	50%

Upon investigation, parking demand for the existing land uses was determined to be approximately 155 vehicular parking spaces at the peak period, 2:00 p.m. Peak demand is primarily driven by the retail land uses, which experiences their heaviest demand during the early afternoon hours of a Saturday.

Conclusion

The proposed parking configuration for the Elmwood Plaza site includes a total of 261 marked spaces for retail, service, restaurant, and office use. Upon investigation of the site, it was concluded that the peak demands for the existing land uses occur at different times of day, and, therefore, a number of spaces may be shared.

The activation of 1,701 square feet of retail and service space, and the conversion of 4,109 square feet of retail and service space to 80 restaurant seats yields a need for an additional ten parking

spaces per Town of West Harford Zoning Regulations. The shared parking analysis shows a maximum demand of 234 parking spaces in the midday hours when the restaurant and retail spaces are simultaneously in demand. According to this analysis, approximately 27 parking spaces are expected to remain vacant during periods of peak use.

In order to further assess the reasonability of this analysis, a check was performed with the Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition. Land Use Code (LUC) 820 – Shopping Center describes an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. These shopping centers include office space, restaurants, banks, etc. and generate parking demand at a rate of 4.58 spaces per 1,000 square feet of gross leasable area. Note that for simplicity the total 45,707 square foot calculation includes some space that is not leasable, thus may be overly conservative. This estimation of peak December Saturday parking generation equals 209 total spaces, 25 fewer than the shared parking analysis, and 52 fewer than the number provided on site.

During the parking counts, it was observed that the eastern portion of the parking lot near Beachland Tavern and the southern portion of the parking lot along New Britain Avenue remained essentially fully occupied throughout the day. However, the western portion of the parking lot experienced dozens, and at times more than 100, vacant spaces, also throughout the day.

Based on the foregoing analysis, it is the professional opinion of Fuss & O'Neill that the proposed parking supply for Elmwood Plaza at 1128 New Britain Avenue is sufficient to meet the requirements of the proposed development.

Additionally, it is recommended that the development be permitted as 45,707 square feet of mixed use shopping center, so as not to require approval for conversion from retail and service space to restaurant space in the future.

Sincerely,

Katherine Patch, EIT
Transportation Engineer

Matthew W. Skelly, PE, PTOE
Project Manager

Enclosures:

ITE Parking generation rates
LUC description
cc:

Land Use: 820
Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.

Additional Data

Shopping centers, including neighborhood centers, community centers, regional centers, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (for example, ice skating rinks or indoor miniature golf courses).

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

The vehicle trips generated at a shopping center are based upon the total GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:15 and 1:15 p.m., respectively.

The average numbers of person trips per vehicle trip at the 27 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.31 during Weekday, AM Peak Hour of Generator
- 1.43 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.46 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Source Numbers

105, 110, 154, 156, 159, 186, 190, 198, 199, 202, 204, 211, 213, 239, 251, 259, 260, 269, 294, 295, 299, 300, 301, 304, 305, 307, 308, 309, 310, 311, 314, 315, 316, 317, 319, 358, 365, 376, 385, 390, 400, 404, 414, 420, 423, 428, 437, 440, 442, 444, 446, 507, 562, 580, 598, 629, 658, 702, 715, 728, 868, 870, 871, 880, 899, 908, 912, 915, 926, 936, 944, 946, 960, 961, 962, 973, 974, 978

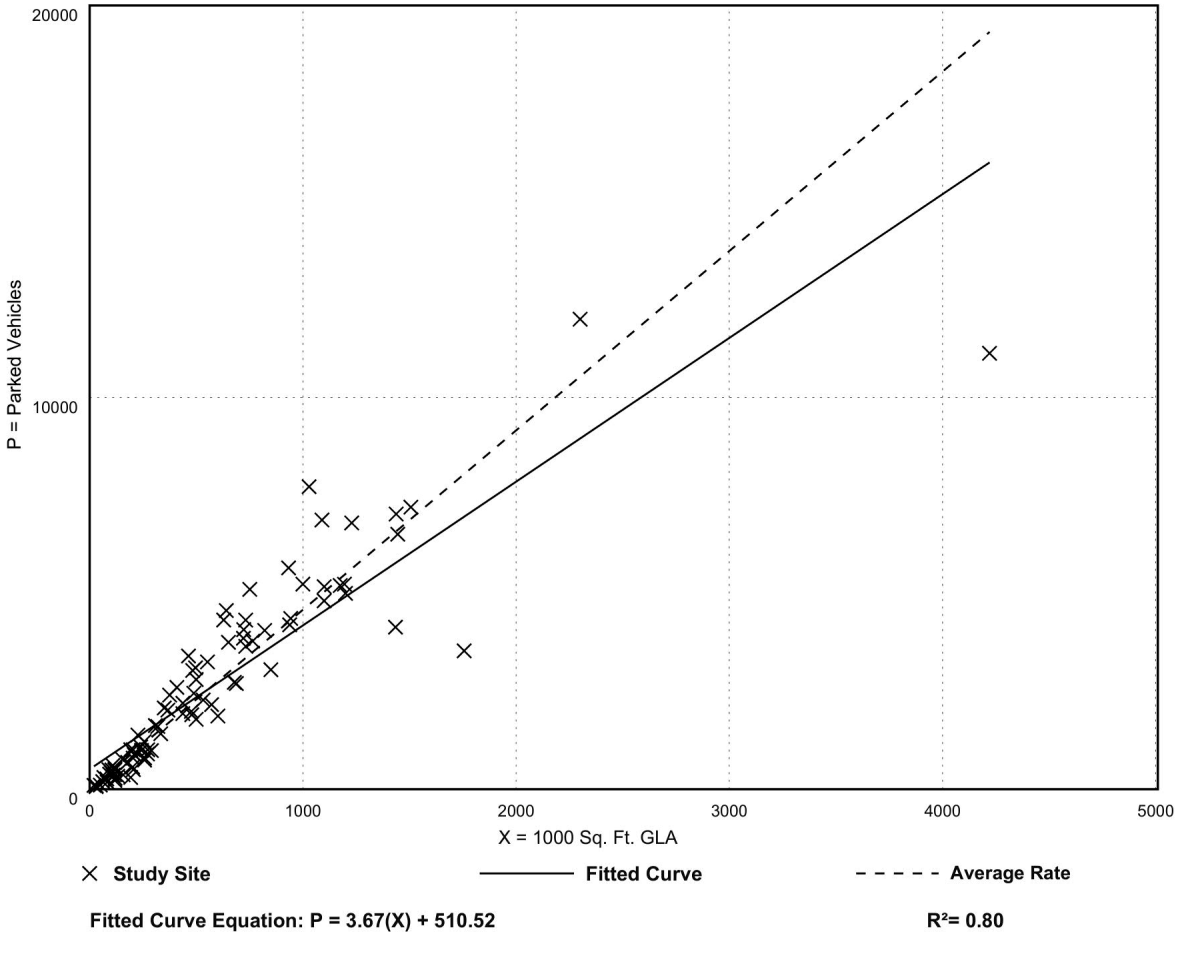
Shopping Center - December
(820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
On a: Saturday
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 11:00 a.m. - 5:00 p.m.
Number of Studies: 93
Avg. 1000 Sq. Ft. GLA: 560

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
4.58	1.56 - 7.50	3.97 / 5.90	4.31 - 4.85	1.33 (29%)

Data Plot and Equation



Fitted Curve Equation: P = 3.67(X) + 510.52

R^2= 0.80